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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,676

05/22/2007

Hidekazu Mori

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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

PEZZUTO, HELEN LEE

ART UNIT

PAPER NUMBER

1796

NOTIFICATION DATE

DELIVERY MODE

05/13/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/576,676	Applicant(s) MORI ET AL.	
	Examiner Helen L. Pezzuto	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 7-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-12 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/17/10</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, claims 1-6 in the reply filed on 3/18/10 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 7-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 3/18/10.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weitzel et al. (US-246) or Gerst et al. (US-490).

US 6,734,246 to Weitzel et al. discloses aqueous dispersion of polyvinylacetal grafted polymers with utilities as binder and adhesives (abstract). Prior art base polymer is derived from one of more monomers including vinyl (meth)acrylates, and 0.5-5 wt% of comonomers including ethylenically unsaturated sulfonic acid, N-methylolacrylamide and glycidyl (meth)acrylate taught within the scope of the instant monomeric unit (1), and crosslinkable functional groups (see abstract; col. 2, lines 51-60, line 65 to col. 3, line 22, lines 34-52).

Similarly, US 6,759,490 to Gerst et al. discloses a process of preparing aqueous dispersion of a copolymer CP with utilities as binder/adhesives (col. 1, lines 12-18, col. 2, lines 3-9; col. 11, lines 28-49). Prior art CP copolymer contains at least 60-99 wt% of M1 and 1-40 wt% of M2 monomers (col. 2, lines 30-60). Suitable M1 monomer include alkyl and/or cycloalkyl (meth)acrylate defined within the scope of the instant monomeric unit(1) (col. 3, lines 17-31), and suitable M2 monomers include an acidic M2a such as sulfonic acid monomers and neutral M2a monomers such as N-methylol(meth)acrylamide (col. 4, lines 7-24). Prior art further suggests adding 0.05-9.9 wt% of crosslinkable monomer M4 including glycidyl (meth)acrylate (col. 5, lines 11-14). Prior art M2 and M4 monomers are taught within the scope of the instant crosslinkable functional group.

Prior art references are silent regarding the recited tensile stress and elongation at break. The examiner takes the position that such properties are considered inherent in prior art formulations because once the selection of the respective monomers in the appropriate proportions are carried out to formulate the aqueous dispersions, the allegedly inherent characteristics would necessarily flow from prior art formulations. Furthermore, the intended use language of a binder for an electrode expressed in the preamble is not limiting because the body of the claims do not set forth specific limitations or structures that refers to the environment or use in the preamble. Moreover, it is a reasonable presumption that such utility would be met in prior art binder formulations because characteristics and functions of the same or obvious chemical entities would be the same.

5. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno et al. (US-989).

US 2004/0062989 A1 to Ueno et al. discloses an aqueous dispersion binding agent for electrode comprising a thickening vinylic polymer (A), and a water dispersible resin (B) (page 1, [0011]). Specifically, polymer (A) can be a copolymer derived from mixture of monomers (a) and (b) (page 1, [0030]). Suitable monomer (b) include C1-C22 (meth)acrylate, N-

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methylo(meth)acrylamide, glycidyl (meth)acrylate, and sulfonic acid monomer, taught within the scope of the instant monomeric unit(1), and crosslinkable functional groups (page 2, [0049]-[0055], [0065]; page 3, [0081-[0082]]). Prior art teaches using up to 60 wt% of monomer (b), which abuts the instant 60% or more monomeric unit (1). The examiner is of the position that one having ordinary skill in the art would have been sufficiently motivated to employ minor amounts of corsslinkable functional units such as those expressed in claims 4-5. Thus, the amount of recited binder composition would expect to abut prior art monomer (b) mixture. Accordingly, a prima facie case of obviousness exists where the prior art and claimed ranges overlap, as well as in the instant case where the claimed range and prior art range, though not overlapping, are sufficiently close that one skilled in the art would have expected them to have the same properties. Regarding the recited tensile stress and elongation at break, as stated in the preceding paragraph, the examiner takes the position that such properties are considered inherent in prior art formulation and expected to be an inevitable consequence of practicing prior art invention.

6. Claims 1-4, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamakawa et al. (US-633, with the

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exception of claim 4) or Kohlhammer et al. (US-837, with the exception of claim 4) or Fink et al. (US-678).

US 6,656,633 to Yamakawa et al. discloses a polymer binder dispersion for an electrode comprising at least 70 wt% of a monofunctional (meth)acrylate (a), a carboxylic acid monomer (b), and a methacrylonitrile monomer (c) (see abstract; col. 2, line 43 to col. 3, line 6; col. 3, line 66 to col. 4, line 13), encompassing the instant monomeric unit (1). US-633 further suggest adding a minor amount of a crosslinkable monomer (d) so as to provide stability to the resultant binder used at higher temperature (col. 4, line 60 to col. 5, line 23).

US 6,884,837 to Kohlhammer et al. discloses a crosslinkable aqueous binder dispersion comprising a copolymer (A) and a copolymer (B) (see abstract). Prior art copolymer (A) and (B) comprise one or more monomers including (meth)acrylic esters within the scope of the instant monomeric unit (1) (col. 3, lines 28-40), wherein copolymer (B) further contains a monomer having reactive functional group including glycidyl (meth)acrylate (col. 3, line 56 to col. 4, line 5) within the scope of the instant crosslinkable functional groups.

Similarly, US 4,473,678 to Fink et al. discloses aqueous dispersions of a self-crosslinkable resin having enhanced film forming properties, comprising 52.1-97.9 wt% of (meth)acrylic

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esters, and 0.1-10 wt% of N-methylol(meth)acrylamide), embracing the recited binder composition.

US-837 and US-678 are silent regarding the intended use language of a binder for an electrode expressed in the preamble. As set forth the preceding paragraphs, the examiner is of the position that such language is not limiting because the body of the claims do not set forth specific limitations or structures that refers to the environment or use in the preamble. Furthermore, it is a reasonable presumption that such utility would be met in prior art binder formulations because characteristics or functions of the same or obvious chemical entities would be the same. Still further, the recited tensile stress and elongation at break are considered inherent in prior art formulations as set forth in the preceding paragraph. Accordingly, it would have been obvious to one having ordinary skill in the art to select the appropriate monomers and crosslinkable monomer in the recited proportion as taught, motivated by the reasonable expectation of success in the formulation of aqueous binder dispersions with enhanced properties. Thus, rendering obvious the present claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen L.

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Pezzuto whose telephone number is (571) 272-1108. The examiner can normally be reached on 8 AM to 4 PM, Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Helen L. Pezzuto/
Primary Examiner
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hlp